Technical Data

ThermaCAM™ GasFindIR HSX 25 mm NTSC

Part number:

25147-200

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Legal disclaimer

Specifications subject to change without further notice. Camera models and accessories subject to regional market considerations. License procedures may apply.

Information and equipment described herein may require US Government authorization for export purposes. Diversion contrary to US law is prohibited.

General description

ThermaCAM™ GasFindIR HSX allows you to detect gas leaks quickly and safely. ThermaCAM™ GasFindIR HSX is capable of rapidly scanning large areas and hundreds of components. ThermaCAM™ GasFindIR HSX is a real-time infrared camera for visualization of gas leaks. The camera is a rugged piece of equipment and is designed specifically for use in harsh industrial environments.

- IR camera for real-time visualization of gas leaks
- Trace leaks to its source
- Reduced inspection time
- Perform safer inspections
- Lightweight, small rugged designed
- Very good thermal sensitivity <35 mK @ 30°C (+86°F)

- Allows you to detect methane and other volatile organic compound (VOC) gas leaks
- High sensitivity mode (ability to detect even very small leaks)

Detects the following gases:
Benzene, Ethanol, Ethylbenzene, Heptane, Hexane, Isoprene, Methanol, MEK, MIBK, Octane, Pentane, 1-Pentene, Toluene, Xylene, Butane, Ethane, Methane, Propane, Ethylene, Propylene

Licensing and classification

License information	Interchangeable lens version of the ThermaCAM™ GasFindIR HSX requires US Department of State License and will be subject to limitations on resale, except inside US. Allow a minimum of 90 days after application submittal for approval.

Imaging and optical data

IR resolution	320 × 240 pixels
Thermal sensitivity/NETD	35 mK @ +30°C (+86°F)
Lens mounting	Interchangeable lens
Field of view (FOV)	22° × 16°
Minimum focus distance	0.2 m (0.66 ft.)
Focal length	25 mm (0.98 in.)
Spatial resolution (IFOV)	1.2 mrad
F-number	2.3
Image frequency	Max 30 Hz (NTSC)
Focus	Manual
Zoom	2× and 4× Digital Zoom
Digital image enhancement	High Sensitivity Mode (HSM)

Detector data

Detector type	Focal Plane Array (FPA), cooled InSb
Spectral range	3–5 µm
Sensor cooling	Stirling Microcooler (FLIR MC-3)
Well capacity	18 e^6

P/N: 25147-200

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Electronics and data rate	
Integration type (electronic shutter speed)	Snap shot
Integration time	Selectable: 1–64 ms
Read-out modes	Integrate while read
Dynamic range	12-bit
Full frame rate	15, 30, 60 Hz (NTSC)

Scene temperature range (50 Hz/60 Hz)	
High (50 Hz/60 Hz) (power switch setting = 3)	15°C to 65°C, Tsat 75°C (59°F to 149°F, Tsat 167°F)
Medium (50 Hz/60 Hz) (power switch setting = 2)	50°C to 110°C, Tsat 125°C (122°F to 230°F, Tsat 257°F)
Low (50 Hz/60 Hz) (power switch setting = 1)	80°C to 140°C, Tsat 150°C (176°F to 284°F, Tsat 302°F)

Scene temperature range (25 Hz/30 Hz)	
High (25 Hz/30 Hz) (power switch setting = 3)	5°C to 55°C, Tsat 65°C (41°F to 131°F, Tsat 149°F)
Medium (25 Hz/30 Hz) (power switch setting = 2)	15°C to 65°C, Tsat 75°C (59°F to 149°F, Tsat 167°F)
Low (25 Hz/30 Hz) (power switch setting = 1)	25°C to 75°C, Tsat 85°C (77°F to 167°F, Tsat 185°F)

Scene temperature range (12.5 Hz/15 Hz)	
High (12.5 Hz/15 Hz) (power switch setting = 3)	–35°C to 0°C, Tsat 10°C (–31°F to 32°F, Tsat 50°F)
Medium (12.5 Hz/15 Hz) (power switch setting = 2)	–25°C to 10°C, Tsat 20°C (–13°F to 50°F, Tsat 68°F)
Low (12.5 Hz/15 Hz) (power switch setting = 1)	–15°C to 20°C, Tsat 30°C (5°F to 68°F, Tsat 86°F)

Image presentation	
Interpolation	None
Video output	RS-170 EIA/NTSC or CCIR/PAL composite video
Viewfinder	Built-in viewfinder, 800 × 600, OLED, B/W
External display	Via personal video recorder

Storage of images	
Storage media	Included personal video recorder
File formats	Standard .avi or .asf video format

Video recording in camera and video streaming	
Video recording type	Recording of video sequences to personal video recorder.
Streaming type	8-bit analog output

Data communication interfaces	
Serial communication, purpose	Command and control
Serial communication, standard	RS-232
Serial communication, connector type	7-pin Fischer connector
Video, standard	CVBS (ITU-R-BT.470 PAL/SMPTE 170M NTSC)
Video, connector type	BNC (CVBS)

Power system	
Battery type	Li Ion
Battery voltage	7.5 V
Battery capacity	7.8 Ah
Battery operating time	Approx. 8 hours at +25°C (+77°F) ambient temperature and typical use
Charging system	Included battery charger (AC adapter or 12 V from a vehicle)

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P/N: 25147-200

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Power system	
External power operation	AC adapter 90–260 VAC, 50/60 Hz or 12 V from a vehicle (cable with standard plug, optional)
AC operation	Via 2-pin Fischer connector (7–24 VDC)
Power	< 6 W typically

Environmental data	
Operating temperature range	–15°C to +50°C (+5°F to +122°F)
Storage temperature range	–40°C to +70°C (–40°F to +158°F)
Humidity (operating and storage)	20–80% (non condensing)
EMC	• EN 61000-6-2:2005 (Immunity) • EN 61000-6-3:2007 (Emission) • FCC 47 CFR Part 15 Class B (Emission)

Physical data	
Camera weight, incl. lens and excl. battery	2.0 kg (4.41 lb.)
Camera weight, incl. lens and battery	2.38 kg (5.25 lb.)
Battery weight	0.38 kg (0.84 lb.)
Camera size (L × W × H)	262 x 158 x 132 mm (10.3 x 6.2 x 5.2 in.)
Tripod mounting	UNC ¼"-20
Housing material	Aluminum
Grip material	Rubber

Scope of delivery

- ThermaCAM GasFindIR HSX Camera
- 25 mm lens cap
- Optical cleaning kit
- Neck strap
- Battery charger, 2 ea.
- Li Ion battery, 3 ea.
- AC-to-DC power supply
- User's Manual
- Hard transport case
- Video cable
- Personal Video Recorder (PVR) and battery
- A/V Cable for Personal Video Recorder

Optional Accessories

- 20887-200 25 mm Lens
- 20888-200 50 mm Lens
- 20889-200 100 mm Lens
- 24016-000 Lens Hood for 25mm Lens
- 24016-001 Lens Hood for 50mm Lens
- 24779-200 Li Ion Battery
- 24777-001 Battery Charger for Li Ion Battery
- 03198-000 Cable-BNC 6FT
- 14730-000 Cable-RS-232 Remote
- 21466-000 A/V Cable for Archos PVR
- 21465-000 Personal Video Recorder
- 3301011 Hard Transport Case
- 09289-200 Optical Cleaning Kit

Optional Accessories

P/N: 25147-200

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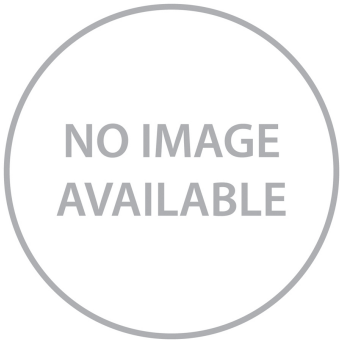
20887-200; 25 mm Lens



General description

This lens is suitable for the majority of applications.

Licensing and classification

License information	Interchangeable lens version of the ThermaCAM™ GasFindIR Class I, Div II, the ThermaCAM™ GasFindIR CO and the ThermaCAM™ GasFindIR HSX requires US Department of State License and will be subject to limitations on resale, except inside US. Allow a minimum of 90 days after application submittal for approval.

Technical data

Field of view (FOV)	22° × 16°
Focal length	25 mm (0.98 in.)
Spatial resolution (IFOV)	1.2 mrad
F-number	2.3

v1.01

20888-200; 50 mm Lens

General description

50 mm Lens

Licensing and classification

License information	Interchangeable lens version of the ThermaCAM™ GasFindIR Class I, Div II, the ThermaCAM™ GasFindIR CO and the ThermaCAM™ GasFindIR HSX requires US Department of State License and will be subject to limitations on resale, except inside US. Allow a minimum of 90 days after application submittal for approval.

P/N: 25147-200

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Technical data

Field of view (FOV)	11° × 8°
Focal length	50 mm (1.97 in.)
Spatial resolution (IFOV)	0.6 mrad
F-number	2.3

Scope of delivery

- Lens
- Lens cap
- Lens case

v1.02

20889-200; 100 mm Lens

General description

100 mm Lens

Licensing and classification

License information	Interchangeable lens version of the ThermaCAM™ GasFindIR Class I, Div II, the ThermaCAM™ GasFindIR CO and the ThermaCAM™ GasFindIR HSX requires US Department of State License and will be subject to limitations on resale, except inside US. Allow a minimum of 90 days after application submittal for approval.

Technical data

Field of view (FOV)	5.5° × 4°
Focal length	100 mm (3.94 in.)
Spatial resolution (IFOV)	0.3 mrad
F-number	2.3

Scope of delivery

- Lens
- Lens cap
- Lens case

v1.02

P/N: 25147-200

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24016-000; Lens Hood for 25mm Lens

General description

Lens Hood for 25 mm lens

Technical data

Color	Black

v1.01

24016-001; Lens Hood for 50mm Lens

General description

Lens Hood for 50 mm lens

Technical data

Color	Black

v1.01

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24779-200; Li Ion Battery

General description
Li Ion Battery

Technical data	
Battery type	Li Ion
Battery voltage	7.5 V
Battery capacity	7.8 Ah

v1.01

24777-001; Battery Charger for Li Ion Battery

General description
Battery Charger for Li Ion Battery

v1.01

P/N: 25147-200

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03198-000; Cable-BNC 6FT

General description

This cable is used to transfer video signals from the infrared camera to an external monitor, or to a computer featuring an internal video card.

Technical data

Cable length	1.8 m (6 ft.)
Connector	BNC

v1.0

14730-000; Cable-RS-232 Remote

General description

This cable is used to connect the infrared camera with a computer, using serial communication (RS-232).

Technical data

Connector	9-pin D-sub, DB9

v1.0

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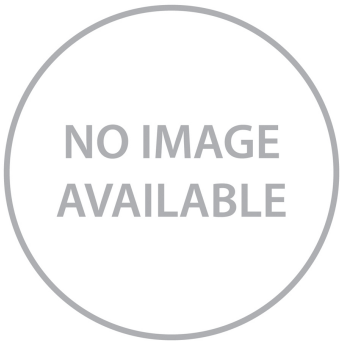
21466-000; A/V Cable for Archos PVR

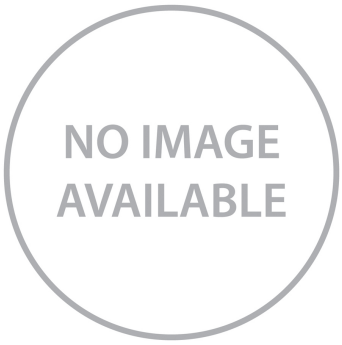
General description
This cable is used to connect the infrared camera to an external personal video recorder.
v1.0

21465-000; Personal Video Recorder



General description
Personal Video Recorder
v1.01

3301011; Hard Transport Case



General description
Hard Transport Case

P/N: 25147-200

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Technical data

Color	Black

v1.01

09289-200; Optical Cleaning Kit

General description

Optical Cleaning Kit

Scope of delivery

- Polishing cloth
- Lens brush
- Eyeglass cleaner
- Case

v1.02